The BURKE-PARSONS-BOWLBY Corporation

P. O. BOX 86 • GOSHEN, VIRGINIA 24439 • PHONE (703) 997-9251

PRESSURE TREATED
WOOD PRODUCTS

June 13, 2005

Ms. Jeanna R. Henry
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

RE: Information Requested – Reference No. C05-011 EPA ID No. VAD005027560

Dear Ms. Henry,

Pursuant the above referenced information requested from U.S. EPA, Region III, received by Burke Parsons Bowlby Corporation (BPB) on April 28, 2005. Burke Parsons Bowlby provides the following responses.

Each question posed by EPA is reiterated and then followed by BPB's "**Response**"

If you require additional information, please feel free to contact me at (540) 997-9251 Ex. 18. Thank you.

Sincerely,

Doug Gentry
Division Manager
Burke Parsons Bowlby Corporation

Enclosure

Answer to third set of question for EPA

1. Please state the amount, in gallons, of condensate that is typically generated on a daily basis.

   Response: The amount of moisture in different species of wood varies greatly, and is further affected by the length of time between when the wood is first cut until the wood is treated. Due to these variables it is impossible to accurately state what would be a typical amount.

2. Does the facility maintain any type of documentation/records (i.e., measurement of condensate collected in work tank following creosote treatment process) that shows the amount of condensate generated by the facility on a daily basis? If so, please submit any and all documentation/records for the time period of April 2000 up to the present.

   Response: Records are not maintained on the amount of condensate generated.

3. Please state the amount, in gallons, of condensate that is typically processed in the evaporator unit on a daily basis.

   Response: Unknown

4. Does the facility maintain any type of documentation/records that show the amount of condensate being process in the evaporator unit (i.e., daily, weekly. monthly basis)? If so, please submit any and all documentation/records for the time period of April 2000 up to the present.

   Response: Records are not maintained on the amount of condensate processed.

5. Please state the amount, in gallons, of creosote that is reclaimed from the evaporator unit over a 30-day period.

   Response: Not known.

6. How often (i.e., daily, weekly, monthly, biannually, annually, etc.) is reclaimed creosote removed from the evaporator unit?

   Response: 3 to 4 times a week

7. Once the reclaimed creosote is removed from the evaporator unit, is it processed in any other way before being sent to the product creosote storage tanks? If so, please provide detailed explanation of such process(es).

   Response: No

8. Please submit a copy of the facility's air permit and specify which sections/pages cover the vent associated with the evaporator unit.

   Response: See attachment A and B.

I certify that the information contained in the response to EPA's request for information and the accompanying documents is true, accurate and complete. As to the identified portions of this response for which I cannot personally verify their accuracy, I certify under penalty of law that this response and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquired of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature: Doug Gentry

Name: Doug Gentry

Title: Division Manager

Attachment B

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Valley Regional Office

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

Street address: 4411 Early Road, Harrisonburg, Virginia 22801
Mailing address: P.O. Box 3000, Harrisonburg, Virginia 22801-9519
Telephone (540)574-7800 Fax (540)574-7878
www.deq.state.va.us

Robert G. Burnley
Director

R. Bradley Chewning, P.E.
Valley Regional Director

November 30, 2004

Mr. Doug Gentry
Plant Manager
The Burke Parsons Bowlby Corporation
P. O. Box 86
Goshen, Virginia 24439

Location: Rockbridge County
Registration No.: 80709
Plant ID No.: 51-163-0033

Dear Mr. Gentry:

Attached is a significant amendment to your new source review permit dated March 2, 1994 to construct and operate a wood treatment facility in accordance with the provisions of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. This amended permit supersedes your permit dated March 2, 1994.

The permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and civil penalty. Please read all permit conditions carefully.

The Department of Environmental Quality (DEQ) deemed the application complete on October 22, 2004 and has determined that the application meets the requirements of 9 VAC 5-80-1290 A for a significant amendment to a new source review permit.

This permit amendment approval shall not relieve The Burke Parsons Bowlby Corporation of the responsibility to comply with all other local, state, and federal permit regulations.

The Regulations, as contained in Title 9 of the Virginia Administrative Code 5-170-200, provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. 9 VAC 5-170-180 provides that you may request direct consideration of the decision by the Board if the

Director of the DEQ made the decision. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision (the date you actually received this decision or the date on which it was mailed to you, whichever occurred first), within which to initiate an appeal of this decision by filing a Notice of Appeal with:

Robert G. Burnley, Director
Department of Environmental Quality
P.O. Box 10009
Richmond, Virginia 23240-0009

In the event that this decision is served on you by mail, three days are added to the period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit amendment, please call Janardan Pandey of the Valley Regional Office at (540) 574-7817.

Sincerely,

Larry M. Simmons, P.E.
Deputy Regional Director

Attachment: Permit

cc: Director, OAPP (electronic file submission)
Manager, Data Analysis (electronic file submission)

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

STATIONARY SOURCE PERMIT TO MODIFY AND OPERATE

This permit supersedes your permit dated March 2, 1994.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

The Burke Parsons Bowlby Corporation
P. O. Box 86
Goshen, Virginia 24439
Registration No.: 80709
Plant ID No.: 51-163-0033

is authorized to modify and operate

a wood treatment facility

located at

9223 Maury River Road
Goshen, Virginia

in accordance with the Conditions of this permit.

Approved on November 29, 2004

Director, Department of Environmental Quality

Permit consists of 6 pages.
Permit Conditions 1 to 18.

PERMIT CONDITIONS - the regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

APPLICATION

1. Except as specified in this permit, the permitted facility is to be modified and operated as represented in the permit application dated September 8, 2004, including amendment information dated October 22, 2004. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.
   (9 VAC 5-50-390 B and 9 VAC 5-80-1210 D)

PROCESS REQUIREMENTS

2. **Equipment List** - Equipment to be modified and operated at this facility consists of:

   - One autoclave (Treatment Cylinder No. 5), capable of treating 873 cubic feet of wood per cycle
   - One Work Tank (2,200 gallons capacity) for creosote (Work Tank No. 5)
   - One Storage Tank (20,000 gallons capacity) for creosote (Storage Tank No. 5)

   Previously installed equipment at this facility prior to the date of this permit consists of:

   - One autoclave (Treatment Cylinder No. 1), capable of treating 1571 cubic feet of wood per cycle
   - One autoclave (Treatment Cylinder No. 2), capable of treating 873 cubic feet of wood per cycle
   - One autoclave (Treatment Cylinder No. 3), capable of treating 1396 cubic feet of wood per cycle
   - One autoclave (Treatment Cylinder No. 4), capable of treating 873 cubic feet of wood per cycle
   - Four Work Tanks (2,200 gallons capacity each) for creosote (Work Tank Nos. 1-4)
   - Four Storage Tanks (20,000 gallons capacity each) for creosote (Storage Tank Nos. 1-4)

   (9 VAC 5-80-1100)

3. **Emission Controls** – Volatile organic compound (VOC) emissions from the short-term storage area shall be controlled by partial enclosure. The storage area shall be provided with adequate access for inspection.
   (9 VAC 5-80-1180)

4. **Emission Controls** – The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. Test ports shall be provided when requested at the appropriate locations.
   (9 VAC 5-50-30 F)

OPERATING/EMISSION LIMITATIONS

5. **Throughput (P2)** – The annual throughput of treated wood shall not exceed 2.8 million cubic feet, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-1180)

6. **Throughput (P2)** – The long-term storage area shall contain no more than 600,000 creosote treated ties per year, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-1180)

7. **Emission Limits (P2)** - VOC emissions from the operation of the creosote treating and storage areas shall not exceed 9.2 tons per year, calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of the emission limit. Compliance with this emission limit may be determined as stated in Conditions 5 and 6.
(9 VAC 5-80-1180)

RECORDS

8. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Valley Region. Records shall include, but are not limited to:

   a. Monthly and annual throughput of treated wood. Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

   b. Monthly and annual throughput of creosote treated ties in the long-term storage area. Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

   These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
   (9 VAC 5-50-50)

NOTIFICATIONS

9. **Initial Notifications** - The permittee shall furnish written notification to the Director, Valley Region, of the following:

   a. The actual date on which modification of Treatment Cylinder No. 5, Storage Tank No. 5 and Work Tank No. 5 commenced within 30 days after such date.

b. The actual start-up date of Treatment Cylinder No. 5, Storage Tank No. 5 and Work Tank No. 5 within 15 days after such date.

(9 VAC 5-50-50)

10. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Valley Region, of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but not later than four daytime business hours of discovery of the malfunction. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of its discovery. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Director, Valley Region, in writing.
(9 VAC 5-20-180 C)

GENERAL CONDITIONS

11. **Permit Invalidation** - The portions of this permit authorizing modification of Treatment Cylinder No. 5, Storage Tank No. 5 and Work Tank No. shall become invalid, unless an extension is granted by the DEQ, if:

    a. A program of continuous modification is not commenced before the latest of the following:

        i. 18 months from the date of this permit;

        ii. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;

        iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or

    b. A program of modification is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.

    (9 VAC 5-80-1210)

12. **Right of Entry** - The permittee shall allow authorized local, state and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
(9 VAC 5-170-130)

13. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I)

14. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

b. Maintain an inventory of spare parts.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-50-20 E)

15. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

a. Knowingly makes material misstatements in the application for this permit or any amendments to it;

b. Fails to comply with the conditions of this permit;

c. Fails to comply with any emission standards applicable to the equipment listed in Condition 2;

d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect on the date that the application for this permit is submitted;

f. Fails to modify or operate this facility in accordance with the application for this permit or any amendments to it; or

g. Allows the permit to become invalid.

(9 VAC 5-80-1210)

16. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Director, Valley Region, of the change in ownership within 30 days of the transfer. (9 VAC 5-80-1240)

17. **Registration/Update** - Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data, changes in control equipment, and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact. The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.1-3700 through 2.1-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.
(9 VAC 5-20-160 and 9 VAC 5-170-60)

18. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-1180)

Attachment A

EMISSIONS WITHOUT CONTROLS
Burke, Parsons, Bolby
Goshen VA

Last Update: 4-Apr-03

Emissions-No Controls

Annual Emissions-No Controls		
I. Point Sources	**Naphthalene**	**Creosote VOC**
Work Tanks	302.6	608.4
Storage Tanks	368.4	740.7
Conditioning	2,217.1	4,457.4
Treatment	547.9	1,101.6
Flash	0.0	0.0
Dehydrator	797.6	1,603.5
Railcar Unloading	41.4	83.2
WWT	0.0	0.0
Sub-Total (lb/year)	**4,275.1**	**8,594.8**
Sub-Total (ton/year)	**2.1**	**4.3**

Annual Emissions-No Controls		
II. Fugitives	**Naphthalene**	**Creosote VOC**
Equipment	528.5	1,062.5
Retort Door	558.0	1,121.8
Sumps	0.0	0.0
Sap Tanks	0.0	0.0
Black Tie Storage	3,837.5	7,715.1
Sub-Total (lb/year)	**4,924.0**	**9,899.4**
Sub-Total (ton/year)	**2.5**	**4.9**

Total VOC Emissions	**Naphthalene**	**Creosote VOC**
Total (lb/year)	**9,199.0**	**18,494.2**
Total (ton/year)	**4.6**	**9.2**

Attachment A

PLANT DATA
Burke-Parsons-Bowlby Corp
Goshen, VA

	Denotes Frequently changed Inputs
	Denotes input fields seldom changed
	Calculated Number

	Creosote Specific Parameters List		
	Napthalene	Vapor Pressure (180 F)	Vapor Molecular Weight (180 F)
Creosote Type	Vapor Mass Fraction	psia	lb/lb-mole
Reference P2 Data	0.4974	0.0396	136.34
Correct Creosote Data	0.4974	0.0396	136.34

Number and Type of Charges Per Year								
Conditioning Charges Per Year			**Empty Cell Charges Per Year**		**Full Cell Charges**			**Preservative**
Air Dry Before Treatment	Steam Conditioned	Boulton Conditioned	Reuping Cycle Trmt. (Initial Air Pres.)	Lowry Cycle Trmt. (No Initial Air)	Air Dry	Steam Condition	Boulton Condition	Used This Year
#	#	#	#	#	#	#	#	gallons
1,278	0	1,278	2,556	0	0	0	0	2,537,824
			100%	0%				

Facility and Process Data			Suggested Default Values
Facility ID or Name	Burke-Parsons-Bowlby Corp.		
Facility Location	Goshen, VA		
Date	13-Jun-05		
Retort Cylinder Length	50	feet	
Retort Cylinder Diameter	7	feet	
Wood Volume per Charge	1,117	cubic feet	
Air Dry Charges	1,278		
Steam Conditioned Charges[1]	0		
Boulton Cycle Treatment Charges	1,278		
Preservative Purchases	2,537,824	gallons per year	
Ambient Pressure	14.7	psia	14.7 psia
Mean Annual Maximum Ambient Temperature	67.7	°F	Refer to Regional Climatic Center
Mean Annual Minimum Ambient Temperature	43	°F	Refer to Regional Climatic Center
Daily Total Solar Insolation Factor	1249	Btu per square feet per day	Refer to AP-42 Table 7.1-7

I. Point Source Air Emissions

A. Work Tank Vents

			Tank	Diameter	Height
Number of Work Tanks	5		1	5	13.5
			2	5	13.5
Average Tank Shell Height	13.5	feet	3	5	13.5
Average Tank Diameter	5	feet	4	5	13.5
Average Liquid Height	10	feet	5	5	13.5
Maximum Liquid Load	12	feet	6		
Average Work Tank Capacity	2200	gallons	7		
Roof Type (Mark with an "X")		Cone	8		
	X	Dome	9		
		Flat	10		
Cone Roof					
Tank Cone Roof Slope		feet tall / feet radius			
Dome Roof					
Tank Dome Radius	5	feet			
Vapor Pressure Average	0.0396	psia	0.038		
Daily Minimum Vapor Pressure	0.0396	psia	0.038		
Daily Maximum Vapor Pressure	0.0396	psia	0.00		
Breather Vent Pressure Setting	0	psig	0.00		
Breather Vent Vacuum Setting	0	psig			

Calculations

Retort Cylinder Volume	2,286.0	cubic feet
Void Volume per Charge	1,168.8	cubic feet
Returned Preservative	8,743.6	gallons/charge
Turnover Calculations for Work Tanks with Recycle		
Total Pump Backs	3,834.0	number per year
Preservative Back per Cycle	8,743.6	gallons
Preservative Back	33,523,124.9	gallons per year
Preservative Thru-put	36,060,948.9	gallons per year
Total Work Tank Capacity	11,000.0	gallons
Tank Turnovers	3,278.3	number per year
I. Point Source Emissions		
A. Work Tank Vents		
Total Losses from Fixed Roof Tanks		
Total Loss	608.4	lb VOC/yr
Standing Storage Losses		
Total Standing Storage Loss for Work Tanks	3.5	lb VOC/yr
Standing Storage Loss for One Work Tank	0.7	lb VOC/yr
Vapor Space Volume	75.5	cubic feet
Vapor Density	0.0009	pounds per cubic feet
Vapor Space Expansion Factor	0.030	
Vented Vapor Saturation Factor	0.992	
Vapor Space Outage	3.843	feet
Roof Outage	0.34	feet
Cone Roof		
Roof Outage		feet
Tank Roof Height		feet
Dome Roof		
Roof Outage	0.34	feet
Tank Roof Height	0.67	feet
Tank Shell Radius	2.5	feet
Vapor Molecular Weight	136.34	pounds per pound-mole
Ideal Gas Constant	10.731	psia-ft³/lb-mole-°R
Daily Average Liquid Surface Temperature	590.4	°R
Daily Average Ambient Temperature	515.0	°R
Liquid Bulk Temperature	649.7	°R
Liquid Bulk Temperature for Unheated Tank	516.4	°R

Attachment A

PLANT DATA
Burke-Parsons-Bowlby Corp
Goshen, VA

	Denotes Frequently changed Inputs
	Denotes input fields seldom changed
	Calculated Number

If Tank is Heated, Mark with an "X"
Liquid Bulk Temperature 180 °F 180

Roof Paint
Condition (Mark with an "X") Good / Poor
Color Mark with an "X" Aluminum, shiny / Aluminum, matte / Gray, Light / Gray, Medium / Red / White

Shell Paint
Condition (Mark with an "X") Good / Poor
Color (Mark with an "X") Aluminum, shiny / Aluminum, matte / Gray, Light / Gray, Medium / Red / White

B. Storage Tank Vents

Number of Storage Tanks 5

Tank	Diameter	Height
1	12	23
2	12	23
3	12	23
4	12	23
5	12	23
6		
7		
8		
9		
10		

Average Tank Diameter 12 feet
Average Tank Shell Height 23.00 feet
Average Liquid Height 19.00 feet
Maximum Liquid Height 23.0 feet
Average Storage Tank Capacity 200000.0 gallons
Roof Type (Mark with an "X") Cone / Dome / Flat

Cone Roof
Tank Cone Roof Slope feet tall per feet radius

Dome Roof
Tank Dome Radius 12 feet

Vapor Pressure Average 0.0396 psia 0.038
Daily Minimum Vapor Pressure 0.0396 psia 0.038
Daily Maximum Vapor Pressure 0.0396 psia 0.038
Breather Vent Pressure Setting 0.0 psig 0.00
Breather Vent Vacuum Setting 0.0 psig 0.00

If Tank is Heated, Mark with an "X"
Liquid Bulk Temperature 180 °F 180

Roof Paint
Condition (Mark with an "X") Good / Poor
Color (Mark with an "X") Aluminum, shiny / Aluminum, matte / Gray, Light / Gray, Medium / Red / White

Shell Paint
Condition (Mark with an "X") Good / Poor
Color (Mark with an "X") Aluminum, shiny / Aluminum, matte / Gray, Light / Gray, Medium / Red / White

Tank Paint Solar Absorbance 0.4
Roof Paint Solar Absorbance 0.4
Roof Paint Condition 100
Roof Paint Color 0
Shell Paint Solar Absorbance 0.4
Shell Paint Condition 100
Shell Paint Color 0
Daily Total Solar Insolation Factor 1,248.0 Btu per square feet
Daily Vapor Temperature Range 17.8 °R
Daily Vapor Pressure Range 0.000 psia
Breather Vent Pressure Setting Range 0.000 psia

			Color	Good	Poor
		Choose Con	Aluminum, shiny	0.39	0.49
		Choose One	Aluminum, matte	0.6	0.68
		Choose Paint	Gray, Light	0.54	0.63
			Gray, Medium	0.68	0.74
			Red	0.89	0.91
			White	0.17	0.34

Working Loss
Total Working Loss for Work Tanks 604.9 lb VOC/yr
Working Loss for One Work Tank 121.0 lb VOC/yr
Annual Net Throughput for One Work Tank 171,718.8 bbl per year
Turnover Factor 0.174
Number of Turnovers per Year 4,092.2
Tank Maximum Liquid Volume 235.6 cubic feet
Working Loss Product Factor 0.75 AP42 allows use of 0.75 for crude oil. Use for creosote.

Basis AP42
Lw=(.001)*(MW)*(VP)*(Thruput)*TOfact*Prod fact
Emis Factor= 0.001 lb/yr/bbl
5.61 cf/bbl

B. Storage Tank Vents

Total Losses from Fixed Roof Tanks
Total Loss 740.7 lb VOC/yr

Standing Storage Losses
Total Standing Storage Loss for Work Tanks 496.1
Standing Storage Loss for One Work Tank 99.2
Vapor Space Volume 545.5 cubic feet
Vapor Density 0.00085 pounds per cubic feet
Vapor Space Expansion Factor 0.59
Vented Vapor Saturation Factor 0.990
Vapor Space Outage 4.823 feet
Roof Outage 0.823 feet

Cone Roof
Roof Outage feet
Tank Roof Height feet

Dome Roof
Roof Outage 0.82 feet
Tank Roof Height 1.6 feet
Tank Shell Radius 6.0 feet

Vapor Molecular Weight 136.34 pounds per pound-mole
Ideal Gas Constant 10.731 psia-ft^3/lb-mole-°R
Daily Average Liquid Surface Temperature 590.4 °R
Daily Average Ambient Temperature 515.0 °R
Liquid Bulk Temperature 649.7 °R
Liquid Bulk Temperature for Unheated Tanks 517.2
Tank Paint Solar Absorbance 0.54
Roof Paint Solar Absorbance 0.68
Roof Paint Condition 100 Choose Con
Roof Paint Color 3 Choose One
Shell Paint Solar Absorbance 0.39 Choose Paint
Shell Paint Condition 100
Shell Paint Color 0
Daily Total Solar Insolation Factor 1,248.0 Btu per square feet per day
Daily Vapor Temperature Range 348.75 °R
Daily Vapor Pressure Range 0.0 psia
Breather Vent Pressure Setting Range 0.0 psia

			Color	Good	Poor
		Choose Con	White	0.17	0.34
		Choose One			
		Choose Paint			

Working Loss
Total Working Loss for Work Tanks 244.7 pounds per year
Working Loss for One Work Tank 48.9 pounds per year
Annual Net Throughput 12,084.9 bbl per year
Total Storage Tank Capacity 100,000.0 gallons
Turnover Factor 1.0
Number of Turnovers per Year 26.1
Tank Maximum Liquid Volume 2,601.2 cubic feet
Working Loss Product Factor 0.75 AP42 allows use of 0.75 for crude oil. Use for creosote.

Basis AP42
Lw=(.001)*(MW)*(VP)*(Thruput)*TOfact*Prod fact
Emis Factor= 0.001 lb/yr/bbl
Using gal/bbl= 42

Attachment A

PLANT DATA
Burke-Parsons-Bowlby Corp
Goshen, VA

	Denotes Frequently changed Inputs
	Denotes input fields seldom changed
	Calculated Number

C. Retort Vacuum System Exhause Vents

Retort Chamber Temperature	190	°F
Full Cell Treatment		
Full Cell Treatment	0	charges per year
Air Dry Conditioned	0	charges per year
Steam Conditioned	0	charges per year
Boulton Cycle Conditioned	0	charges per year
Empty Cell Rueping		
Empty Cell Rueping	2,556	charges per year
Empty Cell Lowry		
Empty Cell Lowry	0	charges per year

D. Steam Dry Conditioning Process

Type of Steam (Mark with an "X")		
Live		
Closed		
Steam Flow		pounds per hour
Hours per Cycle		hours per cycle

E. Final Flash Process

Type of Steam Process (Mark with an "X")		
Live		
Closed		
Steam Flow		pounds per hour
Hours per Cycle		hours per cycle
Cycles per Year		cycles per year

F. Dehydrator

Volume of Liquid Processed	737,406.0	gallons
Percent Preservative in Liquid	3	%

G. Wastewater Treatment System

Total Naphthalene Air Emissions from Water		pounds per year

H. Railcar Unloading 41.4 pounds per year

II. Fugitive (Non-point Source) Air Emissions

A. Equipment Losses

Component	NUMBER	ANNUAL HOURS
Pump Seals		8760
Valves		8760
Safety-Relief Valves		8760
Open-Ended Valves		8760
Flanges		8760
Sampling Connections		8760

B. Retort Door

Temperature	115	°F
Time Door is Open	30	minutes per opening

C. Sump Tanks
Total Naphthalene Air Emissions from Water — pounds per year

D. SAP Tanks
Total Naphthalene Air Emissions from Water — pounds per year

III. Water Discharges
Water Discharges of Naphthalene from Water — pounds per year

Note 1: If the cylinder is used only to steam dry wood, enter 0 for number of charges per year.

C. Retort Vacuum System Exhaust Vents

Retort Cylinder Temperature	360.9	Kelvin	Creosote VP Calculation per AWPI, App. 5, pg 6
Total Emissions from Treatment Process	1,101.6	lb VOC/yr	VP (mmHg)= exp[(-6027.5809/T)+18.209322]
Full Cell Treatment			for T in Deg K. 18.209322
Total Emissions from Full Cell Treatment	0.000000	lb VOC/yr	Correction of VP from 180F to current T.
Emissions from Vapor Conditioned	0.000000	lb VOC/yr	[VP(t)/VP(180)= exp[(-6027.5809/T)+16.961317]
Emissions from Steam Conditioned	0.000000	lb VOC/yr	Basis AWPI, App.5, pg 39
Emissions from Boulton Cycle Condition	0.000000	lb VOC/yr	
Empty Cell (Rueping) Treatment			Emis Basis AWPI, App.5, pg40-41
			Emis=Vac Emis (Lowry) + air release emis
Emissions from Empty Cell Rueping	1,101.6	lb VOC/yr	VOCs from air release(lb/cf) 7.60E-05
Empty Cell (Lowry) Treatment			Emis. Basis AWPI, App. 5, pg 37
Emissions from Empty Cell Lowry	0.0	lb VOC/yr	Reference Emis Rate (lb/charge) 0.874
			Reference Retort Volume (cf) 5773

D. Conditioning Process

Total Emissions from Conditioning Process	4,457.4	lb VOC/yr	
Steam Conditioning			
Type of System	Live		
Total Emissions from Steam Conditioning	0.0	lb VOC/yr	See Flash Emis. Basis below
Boulton Cycle Conditioning			
Total Emissions from Boulton Conditioning	4,457.4	lb VOC/yr	Reference Emis Rate (lb/charge) 8.808
			Reference Retort Volume (cf) 5773

E. Final Flash Process

Type of System	Live		Flash Emis. Basis--AWPI, App 5, pg 42
Total Emissions from Flashing Process	0.0	lb VOC/yr	Assume VOC in steam fraction= 0.10%
			For closed cycle, assume= 0

F. Dehydrator

	(VOCs)		Lb VOC/gal Creosote= .0647184
Total Emissions from Dehydrator	1,603.5	lb VOC/yr	Creosote specific gravity= 1.12

G. Wastewater Treatment
Calculate emissions using Water9 Software and enter amount of naphthalene

H. Railcar Unloading

Emission factor	83.16	lb VOC/yr	perform calculations using USEPA TANKS software

II. Fugitive (Non-Point) Source Air Emissions

A. Equipment Losses

	(VOCs)		SOCMI Factor	Low Volatile Reduction	Adjusted Emis Factor
Total Equipment Emissions	1,062.5	lb VOC/yr			
Emissions from Pump Seals	164.7	lb VOC/yr	0.047	10	0.0047
Emissions from Valves	3.6	lb VOC/yr	0.00051	10	0.000051
Emissions from Safety-Relief Valves	805.9	lb VOC/yr	0.23	10	0.023
Emissions from Open-Ended Lines	0.0	lb VOC/yr	0.0037	10	0.00037
Emissions from Flanges	88.3	lb VOC/yr	0.0018	10	0.00018
Emissions from Sampling Connections	0.0	lb VOC/yr	0.033	10	0.0033

B. Retort Door

Retort Door Temperature	335.9	Kelvin	Basis:
Total VOC Emissions from Retort Door	1,121.8	lb VOC/yr	AWPI, App. 5, pg 6, Avoco Tests
Number of Charges per Year	2556		Doors Rate= 5.917 lb/hr
Rate of Emissions	0.00038	lb / charge / hour	Retort Vol.= 5773 cf